AF 3724

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Charles C. Packham et al.	Art Unit	: 3724
Serial No.	: 09/422,758	Examiner	: C. Goodman
Filed	: October 21, 1999		
Title	: SHAVING SYSTEMS AND FOILS		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO ACTION OF DECEMBER 16, 2003

Applicants submit the accompanying three (3) copies of revised Brief on Appeal, including references to pages and line numbers of the specification and to remove reference to cited references as requested in the office action.

No fee is believed to be due. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: Jan 15, 2004

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REVISED BRIEF ON APPEAL

(1) Real Party in Interest

The real party in interest is Braun GmbH, the assignee.

(2) Related Appeals and Interferences

Applicants note that there is an appeal filed on the same day for divisional application 09/826,720 for a final rejection on the same day as for this appeal, but applicants do not believe that that appeal, which involves method of manufacture claims, involves similar issues on appeal.

(3) Status of Claims

Claims 1-19, 38, 39, 42, 43, 46 and 47, and 50-58[1] stand finally rejected in the Office Action mailed February 26, 2003 and are subject to this appeal. Claims 20, 21, 40, 41, 44, 45, 48 and 49 are withdrawn from consideration. Claims 22-37 were cancelled.

[1] Note that the front page of the Office Action neglected to include claims 50-58,and thus applicants' Notice of Appeal, which listed the finally rejected claims, also inadvertently neglected to include claims 50-58, though applicants are appealing all finally rejected claims, as required by 37 CFR 1.191(c).

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In the office action claims 1-17, 50-54, 57 and 58 are rejected as anticipated by Prankjo, a German design patent (these claims are not rejected at all under 35 USC 103(a)); claims 18, 19, 38, 39, 42, 43, 46, 47 are rejected under 35 USC 103(a) upon Prankjo in view of Packham (GB 2,036,631) or Furuichi (JP), and claims 55-56 are rejected under 35 USC 103(a) on Prankjo alone.

(4) Status of Amendments

There are no outstanding claim amendments. There are proposed drawing corrections affecting Figs. 3, 11,12, 18, 27, and 32 that have not been entered at all because of an objection to the proposed correction to just one drawing, namely Fig. 3.

(5) Summary of Invention

The claimed invention relates to a shaving cutter (e.g., an apertured foil of an electric razor) having a skin engaging surface with complex curved surfaces as recited in the claims. **(Page 3, line 5 to page 5, line 17)**. Figs. 1-4, which are copied below, show an example of a shaving cutter having a skin engaging surface as claimed. Figs. 1-3 show the shape of the external, skin engaging surface, while Fig. 4 is a sectional view that shows the internal undercutter 41 as well.

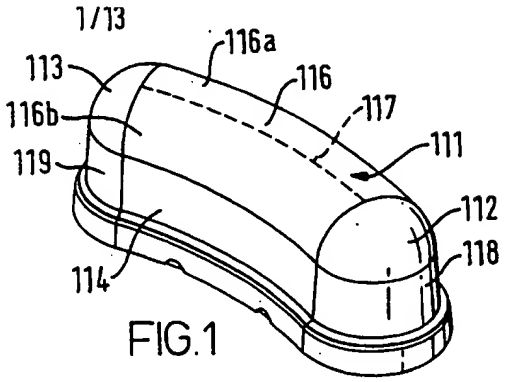


FIG.1

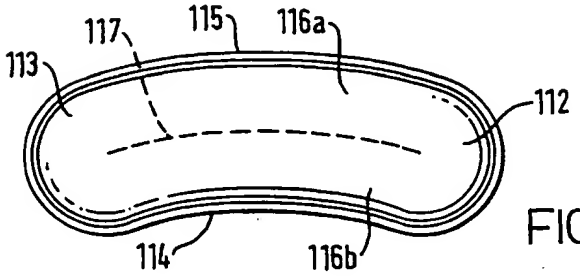


FIG. 2

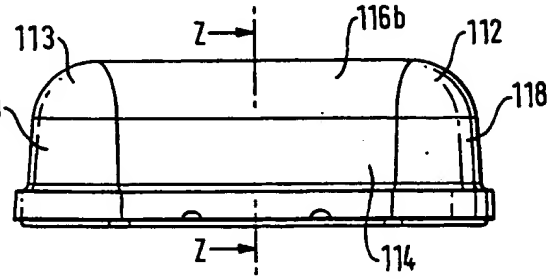


FIG.3

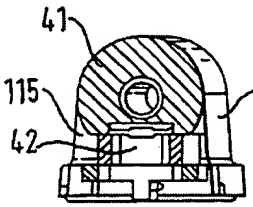


FIG. 4

Independent claim 1 recites: "A shaving cutter comprising a skin-engaging surface having both a convex elliptic region and a hyperbolic region." On Figs. 1-3, the "convex elliptic region" is 116a and the "hyperbolic region" is 116b. **(page 8, lines 24-30)**. The specification defines these terms at **page 1, lines 6-32.**

Dependent claim 5 recites that the cutter also includes a "concave parabolic skirt region." This region is illustrated by region 114 in Fig. 1. **(page 9, lines 1-2)**. Dependent claim 6 recites that the cutter also includes a "convex parabolic skirt region." This region is illustrated by region 115 in Fig. 2. **(page 8, lines 31-32)**. That is, it is the skirt region in Fig. 2, which is on the opposite side of the cutter from region 114. And claim 10 recites that the cutter also includes "a pair of convex elliptic end cheeks each merging smoothly with the elliptic and hyperbolic regions." The end cheeks are illustrated by regions 112 and 113 in Fig. 1. **(page 9, lines 5-9)**.

Independent claim 16 recites:

16. A shaving cutter comprising:
    a first curved skin-engaging surface region;
    a second curved skin-engaging surface region; and
    the second surface region merging seamlessly with the first surface region, wherein the first and second surface regions are shaped such that there exists a cross-sectional plane which intersects the first surface region along a first curved line on which the first surface region is concave with a first radius of curvature and which also intersects the second

surface region along a second curved line on which the second surface region is convex with a second radius of curvature larger than the first radius of curvature.

On the figures, a horizontal plane through regions 116b and 116a will result in the specified concave and convex lines.

Independent claim 17 recites:

a first surface region having two orthogonal planes of curvature, and being concave in one plane; and

a second surface region having two orthogonal planes of curvature, and being convex in both planes, wherein the first surface region merges seamlessly with the second surface region.

On the figures, region 116b is concave in a horizontal plane, and region 116a is convex in a horizontal plane and a vertical plane. **(page 8, lines 24-30)**.

Independent claim 50 is directed to a "shaving cutter" having a skin-engaging surface has "a central shaving region and at least one convex elliptic end zone merging smoothly with the central shaving region." The "shaving cutter" corresponds to "foil 111." Typically such foils are open at the ends and closed by the housings. Claim 50 describes a shaving cutter that has end zones built into it, merging smoothly with a central shaving region (e.g., 116a and 116b) instead of as part of the housing. As noted in the specification:

> The foil may also be provided with closed "wrap around" end cheeks which offer an improvement in shaving comfort, whether or not the foil has the curved "banana shape."
>
> Referring now to Figs. 1 to 3, a banana shaped foil 111 is illustrated having closed convex elliptic end cheeks 112 and 113. **(page 8, lines 16-22)**.

Claims 18, 38, 42 and 46 each depend on different claims and each recite that the shaving cutter already recited (with the complex curved surfaces) is an outer cutter and that there is an undercutter conforming with the outer cutter and mounted for oscillatory movement and a drive element. Fig. 4 copied above shows undercutter 41 conforming to the outer cutter. **(page 9, lines 30-32)**.

Claims 19, 39, 43 and 47 depend on claims 18, 38, 42 and 46 respectively and each recite that the outer cutter has an arcuate longitudinal center line, and that the undercutter is correspondingly arcuate.

Because the complex curve shapes of the invention are so unlike the conventional shaver foil shapes that a suitable manufacturing technique would not be apparent to one of ordinary skill in the art, the specification describes the novel method of manufacture, involving electroforming and masks, in minute, step-by-step detail at pages 12-26 with reference to Figs. 24-33.

Claims 55-58 describe properties of the shaving cutter resulting from the manufacturing method. Claim 55 recites that "the skin engaging surface and the pair of end cheeks are integrally formed from a common material." Claim 57 recites that the "cutter has both the convex elliptic region and the hyperbolic region when in a stress-free state" and claim 58 recites that "the cutter has both the convex elliptic region and the hyperbolic region when free-standing." These are inherent results of the process by which the cutter is fabricated according to the specification.

(6) Issues

Whether the German Pranjko design patent is an enabling reference, where it does not describe how to form the complex curved surfaces.

Whether independent claim1 is anticipated by Pranjko.

Whether independent claim 16 is anticipated by Pranjko.

Whether independent claim 17 is anticipated by Pranjko.

Whether independent claim 50 is anticipated by Pranjko.

Whether dependent claims 5, 6 and 10 are anticipated by Pranjko.

Whether dependent claims 18, 38, 42, and 46 are obvious in view of Pranjko in view of Packham (GB '631).

Whether dependent claims 19, 39, 43, and 47 are obvious in view of Pranjko in view of Packham (GB '631).

Whether dependent claims 18, 38, 42, and 46 are obvious in view of Pranjko in view of Furuichi (JP).

Whether dependent claims 19, 39, 43, and 47 are obvious in view of Pranjko in view of Furuichi (JP).

Whether claim 55 is obvious in view of Pranjko.

Whether claims 57 and 58 are anticipated by Pranjko.

Whether claims 1-7, 10-13, 16, 17, 50-54, 57 and 58 are claiming the same invention as claim 1 of Design Patent 428,671 and thus properly rejected under 35 USC 101 for double patenting.

(7) Grouping of Claims

For the purposes of the prior art rejections under 35 USC 102(b) and 103(a):

Claims 1-4, 7-9, and 11-15 stand or fall together.

Claim 5 stands alone.

Claim 6 stands alone.

Claim10 and 54 stand or fall together.

Claim 16 stands alone.

Claim 17 stands alone.

Claims 18 and 38 stand or fall together.

Claims 19 and 39 stand or fall together

Claim 42 stands alone.

Claim 43 stands alone.

Claim 46 stands alone.

Claim 47 stands alone..

Claims 50-53 stand or fall together.

Claims 55-56 stand or fall together.

Claim 57 stands alone.

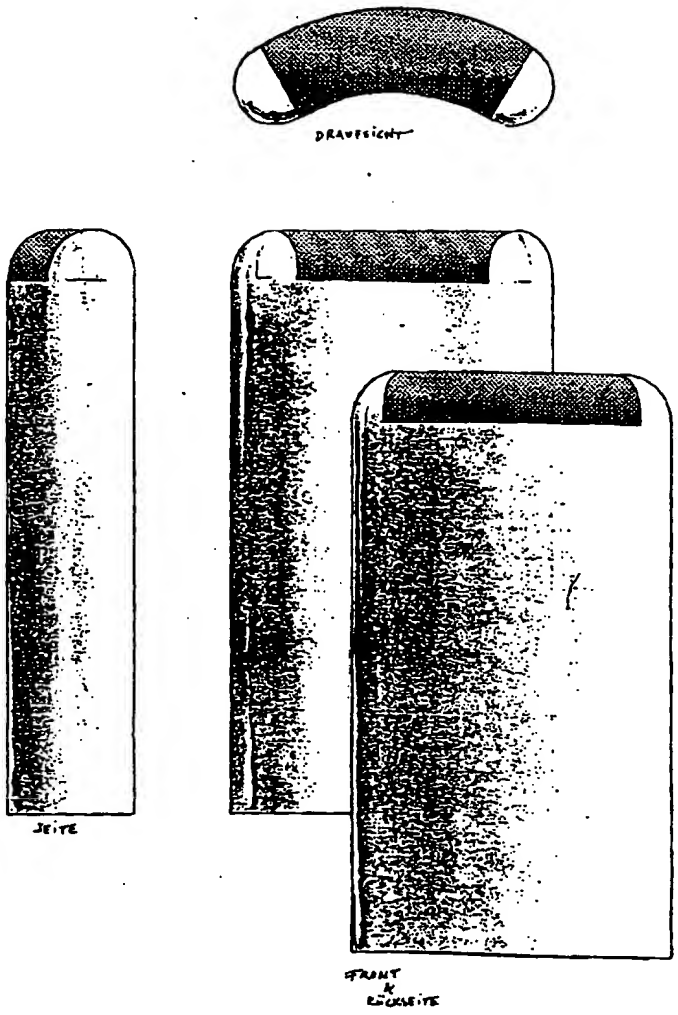
Claim 58 stands alone.

For the purposes of the double patenting rejection based upon the design patent, all rejected claims 1-7, 10-13, 16, 17, 50-54, 57 and 58 stand or fall together.

(8) Argument

I-7 I. Pranjko Is Not An Enabling Reference

Pranjko, which is the sole reference or the primary reference on which all prior art rejections are based, is a German design patent consisting of the title, a "Rasierapparat," which translates into a "safety-razor," and the following drawings.



These drawings, consisting of a top, side, front and back views, appear to show some type of curved grill that extends between two supports. From the top view it would appear that at least some part of the grill has an outer curved surface on its outer long side and an inner curved surface on its inner side. The side view shows that at least one line at the very back of the outer surface is curved in a vertical plane, though the shape of the portions outside of the central

line could potentially assume a variety of shapes. The side view does not provide any similar information about the shape of the inner surface, such that the entirety of the inner surface could potentially assume any variety of shapes. Pranjko does not provide any written information whatsoever about the nature of the curved surfaces and does not identify or describe any of the elements that are shown in his drawings. Furthermore, he says absolutely nothing about how those elements are made, or how they are assembled together, or what lies hidden beneath them. Pranjko is not an enabling reference because Pranjko fails to teach how to fabricate any of the illustrated elements. As noted above, a suitable manufacturing technique for complex curve shapes for an electric razor foil would not be not apparent to one of ordinary skill in the art, and thus the above-captioned specification describes the method of manufacture, involving electroforming and masks, in minute, step-by-step detail at pages 12-26 with reference to Figs. 24-33.

Simply showing a device or structure having such complex curve shape in Pranjko does not establish that a person skilled in the art can make it, and the Examiner has not supplied any evidence to the effect that a person of ordinary skill in the art of shaving cutters would have been able to fabricate a cutter having the complex, but unscaled and wholly unspecified, curvature shown in Pranjko without undue experimentation.

The law requiring that a reference must be enabling in order for it to be a valid anticipatory reference is clear. The Federal Circuit has repeated this principle many times. For example:

> It is well settled that prior art under 35 U.S.C. §102(b) must sufficiently describe the claimed invention to have placed the public in possession of it. Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention. Accordingly, even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling. [emphasis added] In Re Donohue, 766 F.2d 531, 533 (Fed. Cir. 1985).

In another case, the court wrote:

> A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. In addition, the reference must be enabling and describe the applicant's claimed invention sufficiently to have placed it in the possession of a person of ordinary

> skill in the field of the invention. [emphasis added] In Re Paulsen, 30 F.3d 1475, 1478 (Fed. Cir. 1994).

This requirement is most often stated in connection with the technical arts that are viewed as being unpredictable, e.g. chemical cases. It is not, however, limited to only to chemical cases or to the unpredictable arts. As indicated by another more recent Federal Circuit court decision, Halifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1347 (Fed. Cir. 2000), it also applies to the mechanical arts. Halifax involved a method for securing two or more wythes (i.e., layers of masonry) is particularly instructive. The claimed invention, which was owned by Halifix Ltd., involved dry fixing or tying one masonry layer to another masonry structure. The single method claim included twelve elements among which were three that related to the operation of a tool that was needed to effect the anchoring of a tie into one of the masonry layers without creating any stress such as might be caused by hammering the tie into place.

Halifix brought a suit against Blok-Lok, Ltd. alleging that the company was infringing its patent. Blok-Lok defended by arguing that the patent was invalid because Halifix had disclosed the invention in a brochure which Halifix had distributed to the public in 1993, which was more than one year prior to filing its patent application. The 1993 brochure described Halifix stainless steel ties and their use in masonry refacing and new construction and it described the use of the ties in both "DryFix" and "Dry-Chemical Fix" methods of construction.

Halifix acknowledged that the brochure taught nine elements of the claim but argued that the three elements which related to how the tool operated were not taught. The court noted that:

> The brochure might nevertheless be anticipating if a person of ordinary skill in the art would understand the brochure as disclosing elements (8)-(10) and if such a person could have combined the brochure's description of the invention with his own knowledge to make the claimed invention. Halifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1347 (Fed. Cir. 2000)

Halifix argued that the tool required to perform the missing steps was not available at the time that the brochure was made public. Blok-Lok failed to submit any evidence that such a tool was available or that a person skilled in the art would know how to make one in view of the 1993 brochure. The court decided that the 1993 brochure did not anticipate the method claim and stated:

> We conclude, on the record before us, that Blok-Lok failed to provide clear and convincing evidence that the '93 brochure enables a person of ordinary skill in the art to practice the claimed method. In particular, Blok-Lok did not present any evidence indicating that a person of ordinary skill in the art could have made or obtained a tool capable of being used in the claimed method without an undue amount of experimentation. Halifix, supra, 208 F.3d at 1348.

Applying that standard to the present case, given that there is no evidence of record that a person of ordinary skill in the art could make the Pranjko "cutter," we submit that the Pranjko reference is not an enabling reference and thus fails to anticipate the claimed invention.

The claimed shaving cutter is a complex shape that in the case of the shaving cutter of claim 1 includes convex elliptic and hyperbolic regions[2]. Though it might be easy to visualize that structure, it is not easy to fabricate it.

The present application discloses and describes in detail an electroforming technique that makes it possible to fabricate the complex curvature of the claimed cutter. The disclosed electroforming technique, which uses a mandrel, is the subject of other claims that were the subject of a restriction requirement issued by the Examiner. In other words, that technique is not part of the prior art.

The application does discuss other prior art fabrication techniques and points out their deficiencies for the purpose of constructing cutters having complex curvatures:

> Conventional shaving foils for oscillatory dry shavers almost invariably provide only parabolic surfaces. An exception is JP-A-7-646...which describes a foil having an elliptic surface. A base member is formed by applying resist to a flat sheet of metal, patterning the resist and then deforming the metal sheet by a drawing process to form an elliptic surface. The method is limited by the fact that excessive deformation of the initially flat sheet could cause cracking of the resist layer. (Page 1, line 34 to page 2, line 7).

And the application further notes about prior art electroforming techniques:

> It has previously been difficult to electroform complicated surfaces having non-zero Gaussian curvature, although attempts have been made to use photolithography to expose a photoresist through a photo-imaging mask.

---

[2] Independent claims 16, 17 and 50 recite the complex nature of the curved surfaces in different ways.

> However, conventional photoresists are usually applied as a liquid and therefore allow little or no control over the localised continuity of the photoresist. Whilst this may be satisfactory on a two-dimensional, flat surface, it causes difficulties if the photoresist is applied to a complex three-dimensional shape. Current dry film photoresist is not suited to application onto complex shaped surfaces. (Page 13, lines 9-19).

The Examiner has not identified any technique which would have been known by a person of ordinary skill in the art of shaving cutters or foils and which such a person would have recognized could be used to make a cutter having the complex form of Pranjko's "foil cutter." Indeed, we submit that no such technique existed in the prior art. Thus, without the teaching of the present patent application, the skilled person would not have known how to fabricate a cutter having the shape disclosed by Pranjko without undue experimentation.

It should be noted that we are not arguing that a design patent can never be an anticipating reference. We acknowledge that under the appropriate circumstances, not present here, it can serve that purpose. In this case, we are only pointing out that to meet the standard of an anticipating reference, the design patent must also be enabling. In the case of the Pranjko design patent that provides no description whatsoever regarding method of making, it is permissible for the Examiner to point to other teaching outside of the reference to satisfy the enablement requirement. The Examiner, however, has not identified any prior art that enables the Pranjko device. In fact, we submit that no such teaching exists in the prior art before the date of the present application. Without the teaching found in the present application regarding a method of making complex three dimensional cutter foils, a person skilled in the art would not have been motivated to fabricate a cutter having the complex curved surfaces recited in independent claims 1, 16, 17 and 50.

II. Pranjko Does Not Anticipate Independent Claims 1, 16, 17 and 50

Pranjko does not disclose the cutter of independent claims 1, 16, 17 or 50.

The Pranjko design registration merely discloses the external, aesthetic look of a fanciful representation of a "Rasierapparat," i.e., a safety-razor, which appears to have a curved grill. Pranjko neither identifies nor describes any of the elements that are shown in his drawing. Furthermore, he says absolutely nothing about how those elements are made, or how they are

assembled together, or what lies hidden beneath them. The Examiner, using nothing more than hindsight, is reading details into the reference that are not present.

Prankjo's drawings, consisting of a top, side, front and back views, appear to show some type of curved grill that extends between two supports. From the top view it would appear that at least some part of the grill has an outer curved surface on its outer long side and an inner curved surface on its inner side. The side view shows that at least one line at the very back of the outer surface is curved in a vertical plane, though the shape of the portions outside of the central line could potentially assume a variety of shapes. The side view does not provide any similar information about the shape of the inner surface, such that the entirety of the inner surface could potentially assume any variety of shapes. The change in density in the patterning, which apparently indicates a grill, does not indicate any particular shape for the inner and outer surfaces, and the change in density of the patterning would be consistent with a variety of different shapes.

Pranjko does not provide any written information whatsoever about the nature of the curved surfaces and does not identify or describe any of the elements that are shown in his drawings. Furthermore, he says absolutely nothing about how those elements are made, or how they are assembled together, or what lies hidden beneath them.

More specifically, Pranjko presents no description (either in writing or in the drawings) that in any way indicates that the either surface is elliptic or that either surface is hyperbolic, as recited in claim 1. Nothing on the drawings indicates smooth curves for the front and back of the grill. The inner surface could include portions that are flat or that dip in or stick out throughout the surface, and the outer surface could also include flat portions or portions that dip in or dip out at locations beyond the central line that is seen in the side view, interpreted in view of the top view.

There also is no description anywhere within the Pranjko reference (either in writing or in the drawings) from which one could conclude that:

> the first and second surface regions are shaped such that there exists a cross-sectional plane which intersects the first surface region along a first curved line on which the first surface region is concave with a first radius of curvature and which also intersects the second surface region along a second curved line on which the

second surface region is convex with a second radius of curvature larger than the first radius of curvature,

as required by claim 16. As noted for claim 1, the entirety of the inner surface and everything on the outer surface, with the exception of the central line of the outer surface, could include a variety of shapes, including flat portions and dipping in and out, such that there would not necessarily be a first surface region that is concave with a first radius of curvature or a second surface region that is convex with a second radius of curvature. There also is no indication of merging seamlessly between any two such surface regions, another feature of claim 16.

Similarly, there also is no description anywhere within the Pranjko reference (either in writing or in the drawings) from which one could conclude that the device has:

a first surface region having two orthogonal planes of curvature, and being concave in one plane; and

a second surface region having two orthogonal planes of curvature, and being convex in both planes, wherein the first surface region merges seamlessly with the second surface region,

as required by claim 17. As noted for claims 1 and 16, the entirety of the inner surface and everything on the outer surface, with the exception of the central line of the outer surface, could include a variety of shapes, including flat portions and dipping in and out, such that there would not necessarily be two planes of curvature, one being concave for one surface region, and there would not necessarily be two planes of curvature for another surface region, both being convex. There also is no indication of merging seamlessly between any two such surface regions.

There also is no description anywhere within the Pranjko reference (either in writing or in the drawings) which one could conclude that the device is a "shaving cutter comprising a skin engaging surface having ...at least one convex elliptic end zone merging smoothly with the central shaving region,"as required by claim 50. As best as one can tell from looking at Prankjo, the end portions are not part of the "shaving cutter;" they instead are part of the housing that extends below the shaving cutter, contrary to claim 50. Moreover, there are dark lines between the patterned portion (presumably the grill), indicating an abrupt change, not "merging smoothly," as required by claim 50. While there may be some shading potentially indicating some curvature for the front most portions in the top view, and one can see curved lines at the outermost sides in the front and back views, and at the borders with the grill in the side, front and

back views, the remaining portions could include a variety of shapes, including flat portions and dipping in and out, such that there would not necessarily be convex elliptic end zones as required by claim 50.

The examiner does not even attempt to explain where the features of the claims are described in the Prankjo prior art. In view of the absence of disclosure of the claim features in the drawings or text of Prankjo, it must be the case that the Examiner is implicitly arguing that the Pranjko grill "inherently" anticipates the claims. But if that is the Examiner's argument, the Examiner is ignoring the rather high standard that must be met to justify rejecting a claim as inherently anticipated by a reference. It is basic law that: "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of Calif., 2 USPQ.2d 1051, 1053 (Fed. Cir. 1987); same, Tyler Refrig. v. Kysor Indus. Corp., 227 USPQ 845, 846-47 (Fed. Cir. 1985). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 9 USPQ.2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. See In re Bond, 15 USPQ.2d 1566 (Fed. Cir. 1990). For inherency, the Federal Circuit in In re Robertson, 49 USPQ.2d 1949, 1951 (Fed. Cir. 1999) has reiterated the relevant standard: "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." (emphasis added); (quoting In re Oelrich, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981); same, Electro Medical Sys., S.A: v. Cooper Life Sciences, Ind., 32 USPQ.2d 1017, 1020 (Fed. Cir. 1994). Inherency requires that two conditions be met: first, the feature asserted to be "inherent" must be "necessarily present in the thing described in the reference, and secondly, that it would be so recognized by persons of ordinary skill." Robertson, 49 USPQ.2d at 1950-51; same Electro Medical Sys., 32 USPQ.2d at 1020.

The Examiner also errs in drawing inferences about precise details of general shapes from drawings alone. The M.P.E.P. at §2125 cautions against improper inferences being drawn from drawing figures. While use of drawings is not completely impermissible in certain limited situations, §2125 states in boldface capitals "**PROPORTIONS OF FEATURES IN A DRAWING ARE NOT EVIDENCE OF ACTUAL PROPORTIONS WHEN DRAWINGS ARE NOT TO SCALE**", and explains: "When the reference does not disclose that the drawings are to scale and is silent as to

dimensions, arguments based on measurements of the drawing features are of little value." Same, see In re Chitayat, 161 USPQ 224, 226 (C.C.P.A. 1969) (claim to higher quality fiber-optic transmission reciting image displacement of at least 100 fiber diameters, where the cited drawings according to the Solicitor allegedly showed 45 nutations but lacked an explicit numerical teaching relating image displacement to fiber diameter, Court stated "Patent drawings are not working drawings and this argument is predicated, moreover, on a greatly enlarged section of a small drawing obviously never intended to show the dimensions of anything. We do not find it persuasive." (quoting In re Wilson, 136 USPQ 188, 192 (C.C.P.A. 1963) (emphasis added)). Any attempt to use the figures to infer precise details about what are only represented as general shapes fails to satisfy the preponderance of the evidence standard required to make a rejection.

While the examiner has relied solely on anticipation and not obviousness, applicants note that Prankjo, which does not describe (in the drawings or in writing) the shapes of the relevant surfaces, with the exception of a few lines, nowhere suggests the missing claim features noted above as well.

III. Pranjko Does Not Anticipate Dependent Claims 5, 6 and 10

The Examiner has also rejected dependent claims 5, 6 and 10, which depend on claim 1, as anticipated by Pranjko. But he has not pointed to any features of Pranjko that teach the limitations required by those claims. Indeed, as explained below, the Pranjko "cutter" does not include those features.

Claim 5 recites that the cutter also includes a "concave parabolic skirt region." This region is illustrated by region 114 in Fig. 1. Claim 6 recites that the cutter also includes a "convex parabolic skirt region." This region is illustrated by region 115 in Fig. 2. That is, it is the skirt region in Fig. 2, which is on the opposite side of the cutter from region 114. And claim 10 recites that the cutter also includes "a pair of convex elliptic end cheeks each merging smoothly with the elliptic and hyperbolic regions." The end cheeks are illustrated by regions 112 and 113 in Fig. 1.

Pranjko does not disclose a cutter that also has a parabolic skirt region, as required by claims 5 and 6. If the Examiner is assuming that the center region is Pranjko's "cutter" that

satisfies the requirements of claim 1, it is clear from Pranjko's figures that his "cutter" does not include a parabolic skirt region, either convex or concave, nor does his "cutter" include a pair elliptic end cheeks, as required by claim 10. It might be true that Pranjko's shaver body extends down from his "cutter" and might define region that the Examiner might analogize to parabolic surfaces. Those parabolic surfaces, however, are not part of Pranjko's "cutter;" rather, they are part of the shaver unit body. Similarly, it might also be true that Pranjko's shaving unit has ends that bound either side of Pranjko's "cutter" and that the Examiner might analogize these to elliptic end regions. But again those rounded ends are not part of the central cutter; rather, they are part of the shaving unit and they define the region between which Pranjko's cutter is mounted.

While the examiner has relied solely on anticipation and not obviousness, applicants note that Prankjo nowhere suggests the missing claim features noted above as well. The Examiner has provided no support whatsoever for concluding that a person of ordinary skill in the art would be motivated to include those bounding surfaces as part of Pranjko's "cutter" or to extend Pranjko's "cutter" to include such surfaces. Indeed, one skilled in the art would not be motivated to modify the Pranjko cutter in the manner required by claim 5, claim 6, or claim 10, since a cutter so modified would not fit on the shaver unit body that is taught by Pranjko. In addition, eliminating the rounded ends shown on the Pranjko apparatus would eliminate support for the "cutter" that bridges between the two rounded ends. Furthermore, this would wholly rearrange the visual elements of Pranjko's design and totally alter, indeed destroy, the aesthetic look that is the sine qua non and the singular teaching of the Pranjko reference.

A shaving cutter having the features of claims 1 and 5 or the features of claims 1 and 6 are described in the application as having the following advantages:

> [T]he shape provides a contour of continually varying surface curvature which provides planar, concave and convex shaving surfaces, this offering an improved ability to match the contours of the body, especially in difficult areas such as underarm, legs, neck, jawbone and upper lip, and giving an improved shaving performance. (page 7, line 31 to page 8, line 5)

The Examiner has provided no prior art indicating that a person skilled in the art appreciated that those advantages would result from including such features to the cutter itself.

Moreover, the Examiner has not pointed to any prior art that teaches a method of making a cutter that has a convex elliptic region, a hyperbolic region, and a pair of convex elliptic end cheeks merging smoothly with the elliptic and hyperbolic regions.

The features of claims 5, 6 and 10 lacking in Pranjko cannot be met by conclusory statements:

> Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." In re Dembiczak, 50 USPQ 2d 1614, 1617 (Fed. Cir. 1999).

The Federal Circuit has further cautioned that:

> ...in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher."
>
> .....
>
> Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight. In re Dembiczak, 50 USPQ 2d 1614, 1617 (Fed. Cir. 1999). (citations omitted)

In other words, one must exercise special care in not letting hindsight influence the obviousness question. There must be a rigorous showing of the reasons why one of ordinary skill in the art would have modified the reference in the manner proposed. So, it would not be sufficient to simply argue that the claimed features are design choices.

V. Claims 18, 19, 38, 39, 42, 43, 46, and 47 Are Not Obvious over Pranjko in view of Packham

The Examiner rejected claims 18, 19, 38, 39, 42, 43, 46, and 47 under 35 USC 103(a) as being unpatentable over Pranjko in view of Packham (GB 2 036 631). The Examiner argues that Pranjko inherently discloses the undercutter required by the rejected claims and alternatively that Packham teaches the shaving system that can be used under the grill shown by Pranjko.

The Examiner's inherency rejection fails to meet the standard required for such rejections. As we have argued above, an inherency rejection requires that the undisclosed features which the Examiner is trying to infer as being present in the disclosed structure must necessarily be present. It is not sufficient to that the undisclosed structure probably is present.

And it is certainly not sufficient if other alternative arrangements of equal or higher probability might be present.

In this case, there is no way of knowing what kind of undercutter, if any, is present in the structure shown by Pranjko. It could be a small oscillating structure that moves back and forth from side to side under the grill; it could be a rotating structure that spins about a longitudinal axis of the curved grill; or it could be some other arrangement for providing the shearing or cutting action. In addition, it could be possible that the undercutter(s) need not conform with the outer cutter. Because there is no way of knowing which possibility might be used and since some of the options do not involve either the "oscillatory movement" or the conforming relationship, as required by claims 18, 38, 42, and 46, Pranjko alone does not support an anticipation rejection of those claims.

With regard to Packham, we note that the undercutter taught by that reference (see transversely slotted cutter section 13) would not work with the element in the Pranjko apparatus that the Examiner has identified as the outer cutter. The undercutter is a straight linear arrangement that would not conform to and thus would not work with the curved outer cutter of Pranjko. Moreover, there is no indication in any of the references regarding how a person might modify cutter section 13 so that it could work within the "shaver" shown by Pranjko. Because of this fundamental mismatch, a person skilled in the art would not be motivated to combine the drive section of Packham with the outer cutter arrangement of Pranjko.

VI. Claims 19, 39, 43, and 47 Are Not Obvious over Pranjko in view of Packham

Claims 19, 39, 43, and 47, depend on claims 18, 39, 43 and 47, respectively, and each recite that "the outer cuter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate." As pointed out above, Pranjko does not and cannot suggest the arcuate center line of the undercutter. The inner workings of the Pranjko structure are completely hidden. And the Packham reference does not teach or suggest a correspondingly arcuate undercutter; rather it teaches a straight linear undercutter.

VII. Claims 18, 19, 38, 39, 42, 43, 46 and 47 Not Obvious over Pranjko in view of Furuichi

The Examiner rejected claims 18, 19, 38, 39, 42, 43, 46 and 47 under 35 U.S.C. §103(a) as obvious over Pranjko in view of Furuichi. The Examiner argues that Pranjko inherently discloses the undercutter required by the rejected claims and alternatively that Packham teaches the shaving system that can be used under the grill shown by Furuichi.

The Examiner's inherency rejection fails to meet the standard required for such rejections. As we have argued above, an inherency rejection requires that the undisclosed features which the Examiner is trying to infer as being present in the disclosed structure must necessarily be present. It is not sufficient to that the undisclosed structure probably is present. And it is certainly not sufficient if other alternative arrangements of equal or higher probability might be present.

In this case, there is no way of knowing what kind of undercutter, if any, is present in the structure shown by Pranjko. It could be a small oscillating structure that moves back and forth from side to side under the grill; it could be a rotating structure that spins about a longitudinal axis of the curved grill; or it could be some other arrangement for providing the shearing or cutting action. In addition, it could be possible that the undercutter(s) need not conform with the outer cutter. Because there is no way of knowing which possibility might be used and since some of the options do not involve either the "oscillatory movement" or the conforming relationship, as required by claims 18, 38, 42, and 46, Pranjko alone does not support an anticipation rejection of those claims.

With regard to Furuichi, we note that the undercutter 3 taught by that reference would not work with the element in the Pranjko apparatus that the Examiner has identified as the outer cutter. The undercutter 3 of Furuichi would not conform to and thus would not work with the curved outer cutter of Pranjko. Moreover, there is no indication in any of the references regarding how a person might modify Furuichi's undercutter 3 so that it could work within the "shaver" shown by Pranjko. Because of this fundamental mismatch, a person skilled in the art would not be motivated to combine the drive section of Furuichi with the outer cutter arrangement of Pranjko.

VIII. Claims19, 39, 43, and 47 Not Obvious over Pranjko in view of Furuichi

Claims 19, 39, 43, and 47, depend on claims 18, 39, 43 and 47, respectively, and each recite that "the outer cuter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate." As pointed out above, Pranjko does not and cannot suggest the arcuate center line of the undercutter. The inner workings of the Pranjko structure are completely hidden. And the Furuichi reference does not teach or suggest a correspondingly arcuate undercutter; rather it teaches a straight linear undercutter.

IX. Claims 55-56 not Obvious Over Pranjko

The Examiner rejected claims 55-56 under 35 USC103(a) as obvious over Pranjko. In support of his rejection, the Examiner states that

> ...it would have been obvious to the ordinary artisan at the time of the instant invention to provide the device of Pranjko with the same material regions in order to facilitate ease of manufacture due to the same material being used to produce the same...

However, as we argued above, there is no ease of manufacture. Indeed, the Examiner has not presented any evidence that it was even known to a person of ordinary skill in the art of shaving cutters how to fabricate the claimed shaving cutter, whether or not it was integrally formed.

X. Pranjko Does Not Anticipate Dependent Claims 57 and 58

Claim 57 depends on claim 1 and adds the feature that the "cutter has both the convex elliptic region and the hyperbolic region when in a stress-free state." Claim 58 recites: "A shaving cutter according to claim 1 wherein said cutter has both the convex elliptic region and the hyperbolic region when free-standing." These are inherent results of the process by which the cutter is fabricated according to the specification. As pointed out above, the Pranjko reference contains virtually no description whatsoever so it is does not teach that the grill possesses this feature. Moreover, it cannot be legitimately argued that the Pranjko grill inherently possesses this characteristic since it is easy to imagine that the grill piece is flat in its unmounted state. Indeed, the foils in the prior art are of the type that they are flat in their relaxed

state and only take on the curved form when mounted in an appropriate frame, as conventionally shown e.g. in U.S. Pat. 4,493,149 (Tanahashi) of record.

While the examiner has relied solely on anticipation and not obviousness, applicants note that Prankjo nowhere suggests the missing claim features noted above as well.

XI. There is No Double Patenting Here

Claims 1-7, 16, 17, 57 and 58 stand "rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. Des. 428,671." The office action makes clear that this is not an obvious-type double patenting rejection by referring to "statutory type" and saying: "The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101."

MPEP 804 at 800-20 (rev. August 2001) states, with respect to the same invention standard under 35 USC 101: "A reliable test for double-patenting under 35 U.S.C. 101 is whether a claim in the application could be literally infringed without infringing a corresponding claim in the patent.", citing to In re Vogel, 164 USPQ 619 (CCPA 1970). In re Vogel states that if there is an embodiment of the invention that falls within the scope of one claim, but not the other, then identical subject matter is not defined by both claims and statutory double patenting would not exist.

In our case, the design patent claims "the ornamental design for a shaving part for shaver, as shown and described" in the drawings of the design patent. Independent claim 1 of this pending utility patent application claims "a shaving cutter comprising a skin-engaging surface having both a convex elliptic region and a hyperbolic region" and independent claims 16 and 17 similarly specify complex curve shapes. It is clear that these claims of this utility application could be literally infringed by a device that has a convex elliptic region and a hyperbolic region of claim 1 (or the features recited in claims 16 or 17) but looks radically different than the ornamental designs shown in the figures of the design patent such that the device would not infringe the design patent. Accordingly, the rejection for claiming the same invention as the design patent should be reversed.

While the examiner has relied solely on statutory double patenting, and not obviousness-type double patenting, applicants note that obviousness-type double patenting also is not applicable here. Applicants further note that an obviousness-type double patenting rejection also would not proper. The Patent Office must apply the two-way test prescribed by the Federal Circuit because the design-utility double patenting doctrine is solely a creation of that court, as there is no statutory basis for this rejection since neither 35 USC101 (utility patents) nor 35 U.S.C. §171 (design patents) can be applied against both claims. Applicants wish to make the following points in this regard:

1. The Federal Circuit Requires a Two-Way Test (e.g., In re Dembiczak).
2. The 430,352 and 428,671 Design Patents Are Not Obvious over the Utility Claims.

1. The Two-way Test is Required in the Design-Utility Double Patenting Context

The rejection is contrary to the Federal Circuit's requirement for a **two-way** obviousness test in design-utility situations recently re-stated in In re Dembiczak, 50 USPQ.2d 1614, 1619 (Fed. Cir. 1999). The Federal Circuit has long required the two-way test since its earlier decision in Carmen Indus., Inc. v. Wahl, 724 F.2d 932, 220 USPQ 481, 487 (Fed. Cir. 1983). The M.P.E.P. at §1504.06, II., page 1500-33 (rev. July 1998) takes the same position in utility-design situations, requiring the two-way obviousness determination. Furthermore, a rejection under the obviousness-type double patenting doctrine is a question of law that is freely reviewable on appeal. Dembiczak, 50 USPQ.2d at 1619; In re Goodman, 11 F.3d 1046, 29 USPQ.2d 2010, 2015 (Fed. Cir. 1993). The double patenting challenge must be articulated and evaluated, like any other obviousness rejection, against each and every claim individually. Ortho Pharm. Corp. v. Smith, 959 F.2d 936, 22 USPQ.2d 1119, 1124 (Fed. Cir. 1992). As stated in Dembiczak, obvious-type double patenting is only found in rare cases between design and utility patents. Id. at 1619. In applying the two-way test, "there is a heavy burden of proof on one seeking to show double patenting." Carmen Indus., Inc. v. Wahl, 724 F.2d 932, 220 USPQ 481, 487 (Fed. Cir. 1983).

The present rejection cannot stand for at least the reason that the Examiner has only applied a one-way test, and neither of the cited design patents is obvious over the pending utility claims, so without this finding a proper *prima facie* rejection cannot be made.

Under the two-way test required in utility-design patent situations and articulated in Dembiczak, the rejection "is appropriate only if the claims of the two patents cross-read, meaning that 'the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, **and vice versa**.'" Id. at 1619 (emphasis added). Both prongs of the test must be met or the rejection fails. In Dembiczak, the Federal Circuit held that the utility claims to a plastic lawn refuse bag that had facial features printed on it, allowing the bag when filled with leaves to resemble a Halloween jack-o'-lantern pumpkin, could not be subject to the rejection since Dembiczak's design patent depicting a bag with a jack-o'-lantern face was not obvious over the claims to the mechanical structure.

2. The Design Patents Are Not Obvious over the Utility Claims.

The Examiner has not addressed this required prong of the test at all, as discussed above.

Applicants point out that an obvious-type double patenting rejection, like any other obviousness rejection, must be made out having regard to the Graham factors, may not use hindsight, and further may not apply Applicant's own disclosure or figures in the utility application against the design patents, but rather may apply only the text of the claims.

In applying this prong of the two-way test, the Federal Circuit in Dembiczak re-stated the well-known requirement that: "In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the prior art, the design characteristics of which are 'basically the same as the claimed design.'" Dembiczak at 1619, citing In re Borden, 39 USPQ.2d 1524, 1526 (Fed. Cir. 1996). It is only the claims and not the disclosure or figures of the utility application that can be considered with respect to the design patent, since the disclosure of the "reference" patent may not be used as prior art. Carmen Indus., 220 USPQ at 487; accord, Dembiczak, at 1619; M.P.E.P at §804 II.B.1, at p. 800-18 (rev. July, 1998). Indeed, the M.P.E.P. at §1504.06 (page 1500-31) specifically requires "The Examiner must be able to recreate the design claimed from the utility claims without any reliance whatsoever on the design drawings." (emphasis added).

Just as with passages quoted by the Board from Dembiczak's utility claims, which the Federal Circuit held "is not a design reference that is 'basically the same as the claimed design'"

Id.[3], the words of Applicants' present utility claims also do not constitute a design reference which is "basically the same as" the claimed design. Simply stated, the pending claims of the utility patent would allow various embodiments whose ornamental appearances are quite different. In that regard the Federal Circuit in Dembiczak stated:

> The position adopted by the Board –that a textual description of facial indicia found in the claims of the utility patent application makes obvious the specific designs claimed in the ... Dembiczak design patents– would presumably render obvious, or even anticipate, all design patents where a face was depicted on a bag. But this, of course, is not the law ... . 50 USPQ.2d at 1620.

In our case, one reading the utility claims could come up with a wide variety of designs that do not have the ornamental features of the design patents. Thus the ornamental designs claimed in the design patents are not obvious over the utility claims.

Moreover, in Dembiczak, the applicant therein had two distinct design patents whose embodiments came within the scope of the utility claims on appeal, and that was mentioned by the Court as a further example that the text of the claims of the utility patent is not a reference "basically the same as the claimed design" so that it does not render the design patent obvious. There is a parallel here to the facts in Dembiczak. Likewise, the '352 and the '671 Designs are distinct, and one of ordinary skill starting from the claims of the utility patent, without the benefit of hindsight and who is not allowed to rely on the design drawings (as M.P.E.P. §1504.06 mandates as discussed above), would not know what kind of ornamental appearance to utilize and would not be motivated to arrive at either the design of the '352 or the '671 Design claims.

For all the above reasons, since the design patents are not obvious over the present utility claims, the two-way test is not met. Thus, obviousness-type double patenting would not be applicable here.

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[3] The utility claim appears in the case at page 1615 and clearly describes the facial indicia applied to the trash bag.

No fee is believed to be due. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: Jan 15, 2004

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Appendix of Claims

1. A shaving cutter comprising a skin-engaging surface having both a convex elliptic region and a hyperbolic region.

2. A shaving cutter according to claim 1 wherein the elliptic region merges smoothly with the hyperbolic region.

3. A shaving cutter according to claim 2 wherein the elliptic region merges with the hyperbolic region along a parabolic transition region.

4. A shaving cutter according to claim 1 wherein at least one of the surface regions is perforate.

5. A shaving cutter according to claim 1 further comprising a concave parabolic skirt region that depends from the hyperbolic region.

6. A shaving cutter according to claim 5 further comprising a convex parabolic skirt region that depends from the elliptic region.

7. A shaving cutter according to claim 6 wherein the concave and convex skirt regions are concentric.

8. A shaving cutter according to claim 5 wherein each skirt region is perforate.

9. A shaving cutter according to claim 8 wherein the at least one skirt region is provided with elongate hair-capture slots.

Examiner's interpretation

10. A shaving cutter according to claim 1 further comprising a pair of convex elliptic end cheeks each merging smoothly with the elliptic and hyperbolic regions.

11. A shaving cutter comprising a skin-engaging surface having a convex first region, said convex first region having a shape that is selected from the group consisting of parabolic and elliptic, a second region having a shape that is selected from the group consisting of parabolic and hyperbolic, and first and second convex elliptic end zones merging smoothly with the first and second regions.

12. A shaving cutter according to claim 11 further comprising a skirt region that depends from at least one of the first and second regions.

13. A shaving cutter according to claim 11 wherein at least one of the surface regions is perforate.

14. A shaving cutter according to claim 12 wherein the at least one skirt region is perforate.

15. A shaving cutter according to claim 14 wherein the perforate skirt region has elongate hair-capture slots.

16. A shaving cutter comprising:

a first curved skin-engaging surface region;

a second curved skin-engaging surface region; and

the second surface region merging seamlessly with the first surface region, wherein the first and second surface regions are shaped such that there exists a cross-sectional plane which intersects the first surface region along a first curved line on which the first surface region is concave with a first radius of curvature and which also intersects the second surface region along a second curved line on which the second surface region is convex with a second radius of curvature larger than the first radius of curvature.

17. A shaving cutter comprising:

a first surface region having two orthogonal planes of curvature, and being concave in one plane; and

a second surface region having two orthogonal planes of curvature, and being convex in both planes, wherein the first surface region merges seamlessly with the second surface region.

18. A shaving system comprising:

the shaving cutter according to claim 1, wherein the shaving cutter functions as an outer cutter;

an undercutter conforming with the outer cutter and mounted for oscillatory movement beneath the outer cutter; and

a drive element for imparting said oscillatory movement to the undercutter.

19. A shaving system according to claim 18 wherein the outer cutter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate.

38. A shaving system comprising:

the shaving cutter according to claim 11, wherein the shaving cutter functions as an outer cutter;

an undercutter conforming with the outer cutter and mounted for oscillatory movement beneath the outer cutter; and

a drive element for imparting said oscillatory movement to the undercutter.

39. A shaving system according to claim 38 wherein the outer cutter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate.

42. A shaving system comprising:

the shaving cutter according to claim 16, wherein the shaving cutter functions as an outer cutter;

an undercutter conforming with the outer cutter and mounted for oscillatory movement beneath the outer cutter; and

a drive element for imparting said oscillatory movement to the undercutter.

43. A shaving system according to claim 42 wherein the outer cutter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate.

46. A shaving system comprising:

the shaving cutter according to claim 17 wherein the shaving cutter functions as an outer cutter;

an undercutter conforming with the outer cutter and mounted for oscillatory movement beneath the outer cutter; and

a drive element for imparting said oscillatory movement to the undercutter.

47. A shaving system according to claim 46 wherein the outer cutter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate.

50. A shaving cutter comprising a skin-engaging surface having a central shaving region and at least one convex elliptic end zone merging smoothly with the central shaving region.

51. The shaving cutter of claim 50 comprising two convex elliptic end zones merging smoothly with the central shaving region.

52. The shaving cutter of claim 50 wherein the central shaving region has a parabolic shaving surface.

53. The shaving cutter of claims 52 wherein the central shaving surface has a second parabolic shaving surface, said first mentioned and said second parabolic shaving surfaces being on opposite sides of a longitudinal center line of the central shaving region.

54. A shaving cutter according to claim 10 wherein the skin engaging surface and the pair of end cheeks are integrally formed.

55. A shaving cutter according to claim 10 wherein the skin engaging surface and the pair of end cheeks are integrally formed from a common material.

56. A shaving cutter according to claim 55 wherein the common material is a metal.

57. A shaving cutter according to claim 1 wherein said cutter has both the convex elliptic region and the hyperbolic reqion when in a stress-free state.

58. A shaving cutter according to claim 1 wherein said cutter has both the convex elliptic region and the hyperbolic region when free-standing.